1. (Currently amended) A stent for implantation within a body lumen having a curvature, the stent comprising:

a tubular member having a curved longitudinal axis, ~~adapted for expansion from~~ a collapsed delivery configuration for transluminal insertion into the body lumen and ~~to~~ an expanded deployed configuration, ~~the stent having, in the deployed configuration, a curvature relative to a longitudinal axis of the stent~~,

wherein a degree of curvature of the longitudinal axis of the stent is obtained by mapping the curvature of the body lumen and then custom-forming the tubular member ex-vivo so that the degree of curvature of the stent substantially matches the curvature of the body lumen.

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2. (Currently amended) The stent of claim 1 ~~further~~ wherein the tubular member comprises ~~comprising~~ a self-expandable structure ~~adapted for expansion from the collapsed delivery configuration to the expanded deployed configuration~~.

3. (Currently amended) The stent of claim 2, wherein the self-expandable structure of the stent is formed by laser-cutting a tube ~~tubular member~~.

4. (Canceled).

5. (Currently amended) The stent of claim 1 ~~4~~, wherein the degree of curvature of the stent is configured to reduce restoring forces applied by the stent to the implantation site.

6. (Currently amended) The stent of claim 1 ~~4~~, wherein the degree of curvature of the stent is configured to match a 3-dimensional map of the internal profile of the implantation site.

7. (Currently amended) The stent of claim 1 ~~4~~, wherein the degree of curvature of the stent is custom-formed ~~custom-manufactured~~ to match the internal profile of the implantation site.

8. (Canceled).

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9. (Currently amended) The stent of claim 1, wherein the degree of curvature of the stent is custom-formed by heat treating the stent while it is arranged with ~~the desired~~ a curvature that substantially matches that of the body lumen.

10. (Currently amended) The stent of claim 1 ~~6~~, wherein the mapping is performed using ~~3-dimensional map is formed by~~ a technique chosen from the group consisting of ultrasound imaging, intravascular ultrasound imaging, angiography, radiography, magnetic resonance imaging, computed tomography, and computed tomography angiography.

11. (Original) The stent of claim 1 further comprising a delivery catheter adapted to selectively maintain the stent in the collapsed delivery configuration.

12.(Original) The stent of claim 11, wherein the delivery catheter comprises an inner sheath and an outer sheath, the outer sheath removably disposed about the inner sheath, the stent concentrically disposed between the inner and outer sheaths in the collapsed delivery configuration.

13.(Original) The stent of claim 12, wherein the delivery catheter further comprises radiopaque marker bands, the stent disposed between the marker bands.

14.(Original) The stent of claim 12, wherein the delivery catheter further comprises an imaging transducer.

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15.(Original) The stent of claim 1, wherein the stent is fabricated from a material chosen from the group consisting of superelastic materials, biocompatible materials, and biodegradable materials.

16.(Original) The stent of claim 1, wherein the stent is flexible in the collapsed delivery configuration.

17.(Original) The stent of claim 1, wherein a thickness of a wall of the stent changes along the longitudinal axis of the stent.

18.(Original) The stent of claim 1 further comprising a coating at least partially covering the stent.

19.(Original) The stent of claim 18 wherein the coating is configured to perform an action chosen from the group

consisting of retarding restenosis, retarding thrombus formation, and delivering therapeutic agents to the patient's blood stream.

20.(Original) The stent of claim 1 further comprising: a tubular body with a wall having a web structure, the web structure comprising a plurality of interconnected, neighboring web patterns, each web pattern having a plurality of adjoining webs, each adjoining web comprising a central section interposed between first and second lateral sections, wherein the central section is substantially parallel to a longitudinal axis of the stent when in the collapsed delivery configuration, each of the first lateral sections joins the central section at a first angle, each of the second lateral sections joins the central section at a second angle, and adjacent ones of the neighboring web patterns have alternating concavity.

21.(Original) The stent of claim 20, wherein the first angle comprises a first obtuse angle, and wherein the second angle comprises a second obtuse angle.

22.(Original) The stent of claim 20, wherein each adjoining web has a bowl-like appearance.

23.(Original) The stent of claim 20 further comprising a plurality of connection elements configured to interconnect the plurality of web patterns.

24.(Original) The stent of claim 20 further comprising a plurality of transition sections configured to interconnect

neighboring web patterns.

25.(Original) The stent of claim 20, wherein the number of adjoining webs that span a circumference of the stent is selected corresponding to a vessel diameter in which the stent is to be implanted.

26.(Currently amended) The stent of claim 1 further comprising secondary apparatus for plastically deforming the stent during expansion of the stent from the collapsed delivery configuration to the expanded deployed configuration~~, thereby imposing the curvature along the longitudinal axis of the stent in the deployed configuration~~.

27.(Currently amended) The stent of claim 26, wherein the secondary apparatus comprises a balloon catheter adapted for expansion from a collapsed delivery configuration to an expanded deployed configuration~~, the balloon catheter comprising curvature along a longitudinal axis of the catheter in the deployed configuration~~.

28-60.(Canceled).

61.(New) A stent for implantation within a body lumen having a curvature, the stent comprising:

a tubular member selected from amongst a plurality of tubular members, each one of the plurality of tubular members having a longitudinal axis with a predetermined degree of curvature, a collapsed delivery configuration for transluminal insertion into the body lumen and an expanded deployed

configuration, at least some of the plurality of tubular members having longitudinal axes with different predetermined degrees of curvature,

wherein the tubular member is determined by mapping the curvature of the body lumen and then selecting the tubular member having a predetermined degree of curvature that most closely matches the curvature of the body lumen.

62. (New) The stent of claim 61 further comprising a self-expandable structure adapted for expansion from the collapsed delivery configuration to the expanded deployed configuration.

G1 depend on 3 63. (New) The stent of claim 2, wherein the tubular member comprises a self-expandable structure formed by laser-cutting a tube.

64. (New) The stent of claim 61, wherein the predetermined degree curvature of the stent is configured to reduce restoring forces applied by the stent to the implantation site.

65. (New) The stent of claim 61, wherein the predetermined degree of curvature of the stent is configured to match a 3-dimensional map of the internal profile of the implantation site.

66. (New) The stent of claim 61, wherein the predetermined degree of curvature of the stent is custom-formed to match the internal profile of the implantation site.

67. (New) The stent of claim 61, wherein the predetermined degree of curvature of the stent is statistically matched to the internal profile of the implantation site.

68. (New) The stent of claim 61, wherein the mapping is performed by a technique chosen from the group consisting of ultrasound imaging, intravascular ultrasound imaging, angiography, radiography, magnetic resonance imaging, computed tomography, and computed tomography angiography.

69. (New) The stent of claim 61 further comprising a delivery catheter adapted to selectively maintain the stent in the collapsed delivery configuration.

70. (New) The stent of claim 69, wherein the delivery catheter comprises an inner sheath and an outer sheath, the outer sheath removably disposed about the inner sheath, the stent concentrically disposed between the inner and outer sheaths in the collapsed delivery configuration.

71. (New) The stent of claim 70, wherein the delivery catheter further comprises radiopaque marker bands, the stent disposed between the marker bands.

72. (New) The stent of claim 70, wherein the delivery catheter further comprises an imaging transducer.

73. (New) The stent of claim 61, wherein the stent is fabricated from a material chosen from the group consisting of superelastic materials, biocompatible materials, and

biodegradable materials.

74.(New) The stent of claim 61, wherein the stent is flexible in the collapsed delivery configuration.

75.(New) The stent of claim 61, wherein a thickness of a wall of the stent changes along the longitudinal axis of the stent.

76.(New) The stent of claim 61 further comprising a coating at least partially covering the stent.

77.(New) The stent of claim 76 wherein the coating is configured to perform an action chosen from the group consisting of retarding restenosis, retarding thrombus formation, and delivering therapeutic agents to the patient's blood stream.

78.(New) The stent of claim 61 further comprising: a tubular body with a wall having a web structure, the web structure comprising a plurality of interconnected, neighboring web patterns, each web pattern having a plurality of adjoining webs, each adjoining web comprising a central section interposed between first and second lateral sections, wherein the central section is substantially parallel to a longitudinal axis of the stent when in the collapsed delivery configuration, each of the first lateral sections joins the central section at a first angle, each of the second lateral sections joins the central section at a second angle, and adjacent ones of the neighboring web patterns have alternating concavity.

79. (New) The stent of claim 78, wherein the first angle comprises a first obtuse angle, and wherein the second angle comprises a second obtuse angle.

80. (New) The stent of claim 78, wherein each adjoining web has a bowl-like appearance.

81. (New) The stent of claim 78 further comprising a plurality of connection elements configured to interconnect the plurality of web patterns.

82. (New) The stent of claim 78 further comprising a plurality of transition sections configured to interconnect neighboring web patterns.

83. (New) The stent of claim 78, wherein the number of adjoining webs that span a circumference of the stent is selected corresponding to a vessel diameter in which the stent is to be implanted.

84. (New) The stent of claim 61 further comprising secondary apparatus for plastically deforming the stent during expansion of the stent from the collapsed delivery configuration to the expanded deployed configuration.

85. (New) The stent of claim 84, wherein the secondary apparatus comprises a balloon catheter adapted for expansion from a collapsed delivery configuration to an expanded deployed configuration.